

REPORT DOCUMENTATION PAGE			Form Approved OMB No. 0704-0188	
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate only, other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (07804-0188), Washington, DC 20503.				
1. AGENCY USE ONLY (LEAVE BLANK)		2. REPORT DATE 9 April 1999		3. REPORT TYPE AND DATES COVERED Professional Paper
4. TITLE AND SUBTITLE You Can Move Packets, Now What?			5. FUNDING NUMBERS	
6. AUTHOR(S) Daniel Skelley Sidney Jones				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Naval Air Warfare Center Aircraft Division 22347 Cedar Point Road, Unit #6 Patuxent River, Maryland 20670-1161			8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) Naval Air Systems Command 47123 Buse Road, Unit IPT Patuxent River, Maryland 20670-1547			10. SPONSORING/MONITORING AGENCY REPORT NUMBER	
11. SUPPLEMENTARY NOTES				
12a. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution is unlimited.			12b. DISTRIBUTION CODE	
13. ABSTRACT (Maximum 200 words) Instrumentation designs currently consist of centralized data acquisition systems (where components are located in one general area of the test article), distributed data acquisition systems (where components are placed around the test article), and data acquisition networks (where a distributed system is interconnected via a network bus). Data acquisition networks will have far reaching effects on the test and evaluation process because data is moved in packets and commercial communication standards are used.				
14. SUBJECT TERMS Data Acquisition Network Test and Evaluation			15. NUMBER OF PAGES	
			16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified	20. LIMITATION OF ABSTRACT UL	

DTIC QUALITY INSPECTED 4

19990909 256

You Can Move Packets, Now What?

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CLEARED FOR
OPEN PUBLICATION

9 Apr 99

PUBLIC AFFAIRS OFFICE
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Instrumentation Designs

- Centralized data acquisition systems
 - Components located in one general area of the test article
- Distributed data acquisition systems
 - Components placed around the test article
- Data acquisition networks
 - Distributed system interconnected via a network bus

Data Acquisition Networks

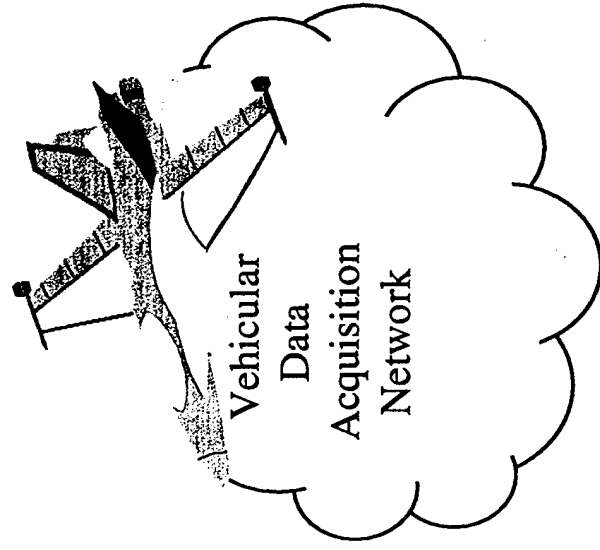
- Data is moved in packets
- Use commercial communication standards
- Will have far reaching effects on the Test and Evaluation process
 - Concepts like data driven acquisition become achievable
 - Data compatibility with traditional computer networks

Leading the Way to Data Acquisition Networks

- Range Commander's Council Tasks
 - TG-54 Instrumentation Bus Standard
 - TG-53 Packetized Telemetry
- NexGenBus project sponsored by OSD

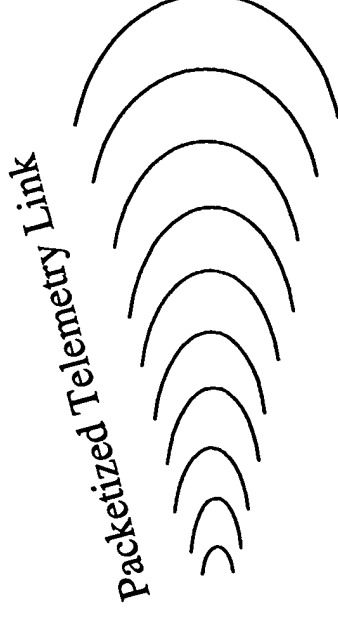
Instrumentation Bus Standard

Test Article



TG-54 and NexGenBus Will Standardize the Delivery System for Packets within the Vehicular Data Acquisition Network.

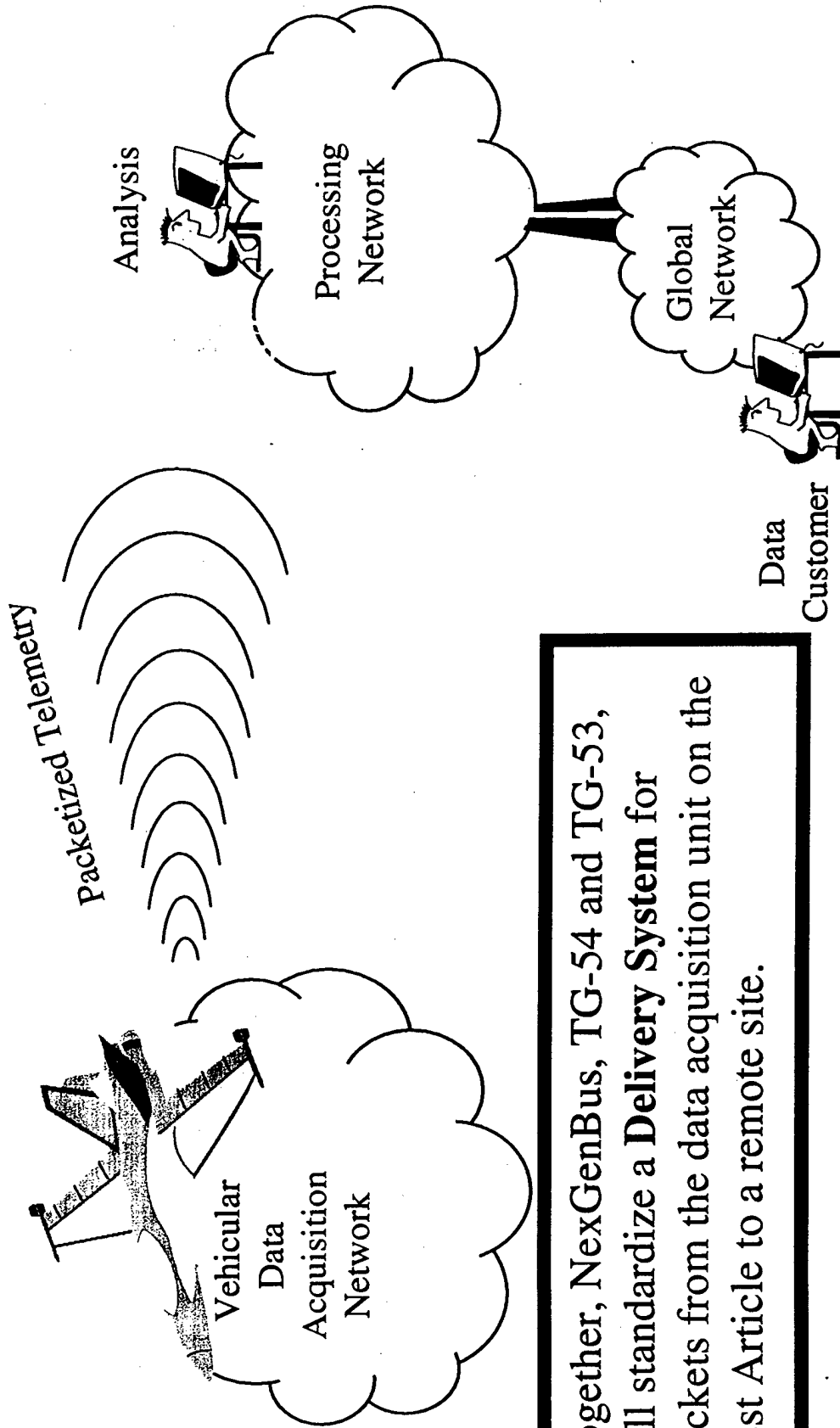
Packetized Telemetry Standard



**TG-53 will Standardize the Delivery System for the
Transmission of Packetized Data**

You Can Move Packets

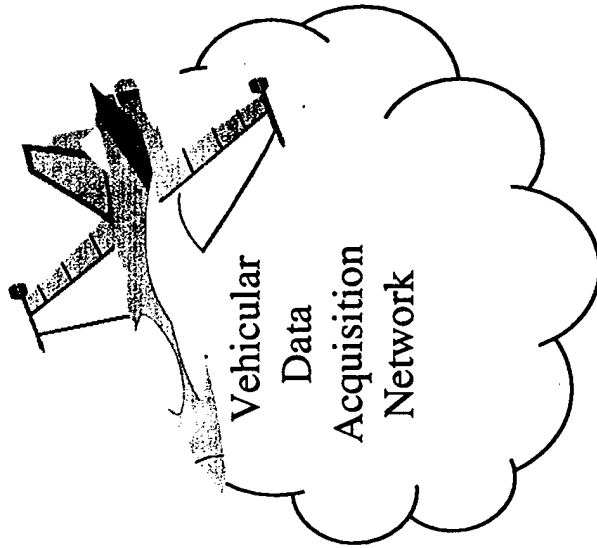
Test Article



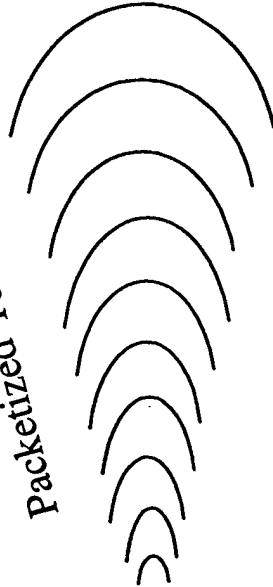
Together, NexGenBus, TG-54 and TG-53, will standardize a **Delivery System** for Packets from the data acquisition unit on the Test Article to a remote site.

Now What?

Test Article



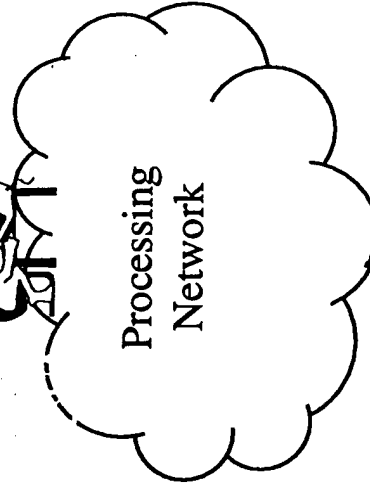
Packetized Telemetry



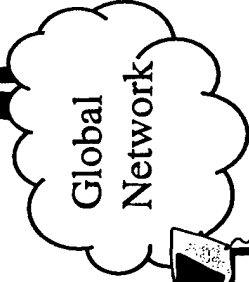
Analysis



Processing Network



Global Network



Data Customer



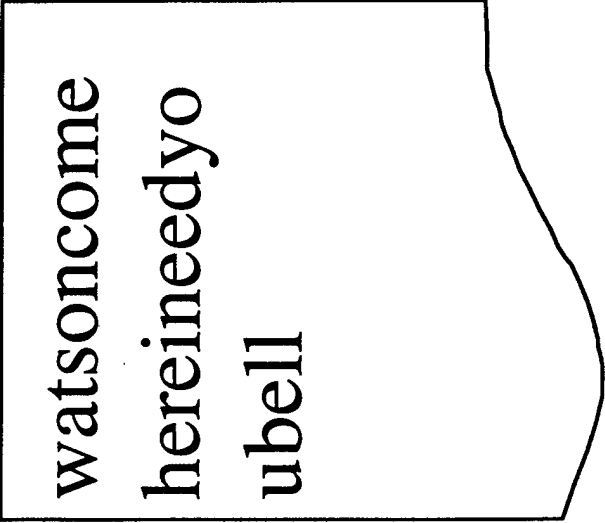
What is the Structure/Format of
the Delivered Packets?

Mail System Analogy

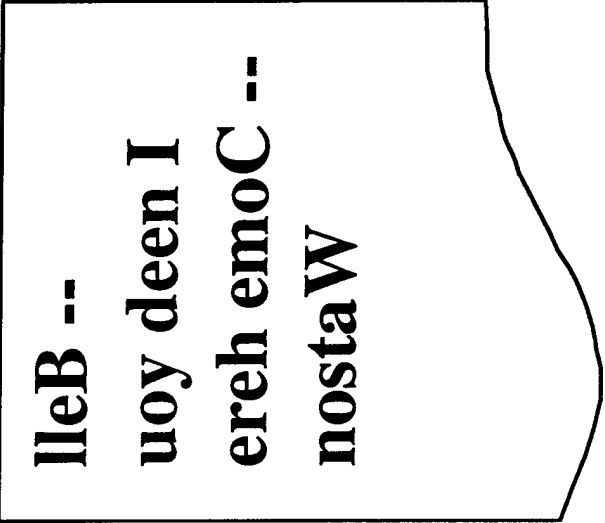
- Provides delivery across the street or across the country
- Delivery is provided without regard to contents
- Without a mutual understanding (language, format, etc.) delivered letter cannot be understood

Letters with Non-Standard Format

- Knowing the unique language and format rules the following can be understood



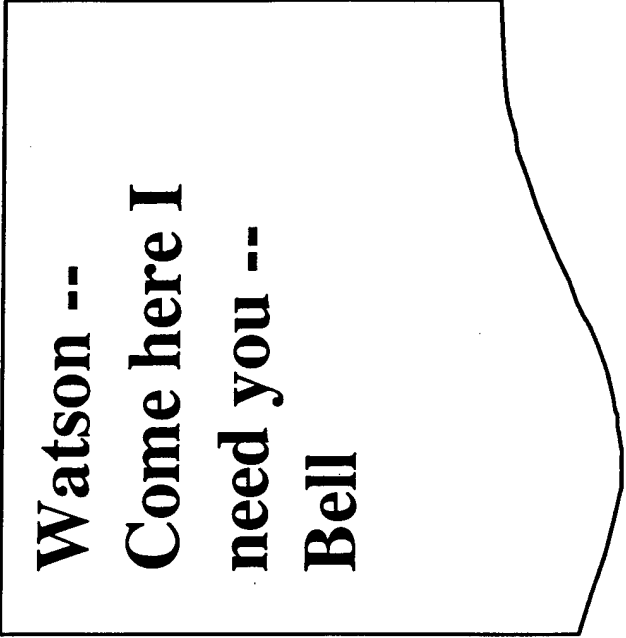
watsoncome
hereineedyo
ubell



lleB --
uoy deen I
ereh emoC --
nostaW

Letter with Standard Format

- Easily understood because it uses a commonly understood language and format rules



**Watson --
Come here I
need you --
Bell**

RCC Ad Hoc Committee

- The RCC Telemetry Group has proposed the creation of an AD Hoc committee
 - To study the issues
 - Define the structure/format of packetized data created on the test article
 - Communicate the attributes of packetized data to the user

Summary

Will packetized data
be a small or large
part of our business?

Either way you
need the
standards

